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ABSTRACT

The equitability of current New Jersey State programs supporting higher education is the primary focus of this study. Taxpayer equity is defined as the distribution of higher education costs on the basis of ability to pay and commensurate with the distribution of higher education subsidies. The net effect of all state programs on each income group is summarized. The state programs are described in terms of their net impact on families with students in each collegiate sector. The results indicate that income is redistributed from those families with incomes between $5,000 and $15,000 to families earning above $15,000 and below $5,000. The receipt of net state aid benefits is not contingent on a group's ability to pay and is therefore inequitable. Several policy changes are suggested to produce a more equitable financing system including: increase state student aid to students from families earning between $5,000 and $15,000; change the patterns of distributing state institutional aid; and alter the state tax structure to generate state funds in a more progressive manner. (JMF)

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COMMISSION ON FINANCING POSTSECONDARY EDUCATION
STATE OF NEW JERSEY

A PUBLIC COMMISSION APPOINTED BY THE NEW JERSEY BOARD OF HIGHER EDUCATION

AN ANALYSIS OF THE MONETARY BENEFITS AND COSTS OF HIGHER EDUCATION IN NEW JERSEY IN 1975-1976

A study conducted by the

State of New Jersey

COMMISSION ON FINANCING POST-SECONDARY EDUCATION

June 1976

State of New Jersey
COMMISSION ON FINANCING POST-SECONDARY EDUCATION
20 Nassau Street, Suite 250
Princeton, New Jersey 08540

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TABLE OF CONTENTS

INTRODUCTION AND PURPOSE	1
WHO BENEFITS?	5
WHO PAYS?	16
INCOME REDISTRIBUTION	24
SUMMARY AND CONCLUSIONS	32
SUPPLEMENT	36
The Impact of Federal-Type Income Tax A Tuition Free Public System	
APPENDIX	42

LIST OF TABLES

1. The Distribution of State Institutional Aid for Undergraduates By Sector and Student 7
2. Income Distributions of Families with Students in New Jersey Colleges and Universities by Sector 8
3. The Distribution of State Institutional Aid Benefits By Sector 9
4. The Distribution of State Student Aid Benefits By Sector 12
5. The Distribution of All State Aid Benefits By Sector 14
6. The Distribution of Federal Student Aid Benefits to New Jersey 15
7. New Jersey Tax Burden 17
8. Federal Tax Burden 18
9. The Distribution of Institutional Aid Costs By Sector 19
10. The Distribution of State Student Aid Costs By Sector 21
11. The Distribution of All State Aid Costs By Sector 22
12. The Distribution of Federal Student Aid Costs 23
13. The Distribution of Net Institutional Benefits By Sector 25
14. Marginal Net Benefits From Institutional Aid By Sector 26
15. The Distribution of Net Student Aid Benefits By Sector 29
16. The Distribution of Net Federal Student Aid Benefits 30
17. The Distribution of All Net State Aid Benefits By Sector 33
18. Net State Aid Benefits Per Family With Student, By Sector 34
19. The Distribution of Net State Aid Benefits Using A Federal-Type Income Tax, By Sector 38
20. Net State Aid Benefits Per Family With Student Using A Federal-Type Income Tax, By Sector 39
21. The Distribution of Additional Net Benefits By Sector 41

Preface

The following report is certain to evoke controversy. Some will not like the findings. Others will quarrel with the methodology. Still others will argue that higher education should not concern itself with the equity of monetary benefits flow. We believe the value to policymakers of this analysis far outweighs such disagreements.

The fact that families with annual incomes from $5,000 - $15,000 subsidize higher education for those above and those below may be perceived as irrelevant or unimportant. We do not agree. We believe that the net benefits flow should be at least as large for low income groups as for high income groups. In light of the tax structure, this definition of equity suggests that direct institutional subsidies be reduced and need based student aid increased. While we believe there should be continued institutional subsidies to provide support for public higher education, reduction of the subsidy level is necessary over time if current inequities are to be addressed. This movement is indicated by analyzing participation rates in the collegiate sector, which clearly show lower income students are underrepresented in the aggregate in spite of the fact that they bear a disproportionately heavy effective tax burden.

The inequities are compounded by the fact that lower income students are enrolled disproportionately in institutions which receive less per student support from the state. Therefore, these lower income students receive less net benefits from the state even when they do participate in the system. This differential has been justified by the need to spend different sums to support institutions with different missions. However, we would argue that for basic instructional services such differentiation in state institutional subsidy is

inequitable. A more appropriate strategy would be to charge additional tuition for institutions which have real or perceived quality advantages and to provide aid for those who are academically qualified but lack the financial means to attend these institutions.

Those who will disagree with the analytical techniques used in this report have a legitimate concern in that the analysis is not longitudinal. However, no one has been able to provide a good assessment of the longitudinal personal or societal benefits of a college degree since its worth will vary with factors such as the state of the economy. While we would agree that a longitudinal assessment would be helpful, we believe that a one-year assessment provides an appropriate framework for debate of the equity issue.

We have made every effort to eliminate technical errors that existed in previous net benefit analyses. We have related tax rates to the proportion of the state's budget going to support higher education. We have included Federal student aid programs, to the degree possible given available data, to better understand the state system. We have also attempted to portray the impact a change in the New Jersey tax collection system would have on cost/benefit relationships in higher education. While acknowledging that the data are not perfect, we believe the trends that emerge are correct.

Finally, we believe higher education must be concerned with the flow of monetary net benefits. Institutions in New Jersey have taken formal positions endorsing a state income tax on the ground that the current tax system not only provides inadequate resources to the state and is inelastic, but also because the system is regressive. We applaud this initiative. Concurrently, we believe the academic community must examine the equity of monetary net benefits resulting from the current allocation pattern of state resources to higher education. It is true that utilization of an equity standard may indicate the

need to adjust allocation patterns with the result that some institutions will receive smaller direct institutional subsidies. However difficult, it is imperative that the higher education community examine this issue with the same analytical and objective talents that are applied to classroom discussions. If it is legitimate to raise concerns about the inequities which are present in other social programs, it is not intellectually defensible to erect barriers to analyzing the equity issue as it applies to higher education.

The following analysis is not the final answer. In the end, value judgments must be made about the relative importance of equity and about the solutions that should be adopted to alleviate obvious inequities. This report should help by illuminating problems with the current financing system and by providing a foundation for appropriate issue-oriented debate.

Andrew Lupton
Executive Director

INTRODUCTION AND PURPOSE

The appropriation of public funds in support of any individual, industry or social service produces a redistribution of real income. The nature of the income redistribution effects resulting from state support of higher education constitutes the main subject of this paper. Public monies expended by New Jersey through the Department of Higher Education are analyzed by comparing the benefits received and costs incurred by various income groups. A determination is then made of the extent to which the current financing system transfers income from one group to another. Components of the financing system are considered individually to ascertain their effect on the final results.

Three policy questions of considerable significance rest on the findings of this type of analysis.

- Who benefits from, and who pays for, higher education? (This question was specifically stated in the charge given to this Commission from the Board of Higher Education.)
- Is the redistribution of income between given groups and families in accord with the goals set forth in the New Jersey Master Plan?
- How can these stated public policy goals be better attained through changes in existing financing strategies?

The distribution of higher education costs and benefits has been the subject of several earlier studies. Peter Machlus, Douglas Windham, Burton Weisbrod and W. Lee Hansen have provided useful frameworks for such an analysis through their work in New York, Florida and California respectively. All monetary benefits accruing from the system under review and the costs associated with these subsidies are assigned to segments of the population according to income level criteria. The amount of public subsidies received by each income group through its students and the taxes paid by families in each category in support of higher education are then estimated and compared.

These studies cannot be applied directly to the New Jersey system for several reasons. They all dealt with tuition free public systems and did not account for the impact of state and federal student aid programs. New Jersey does not completely subsidize any collegiate sector and consequently its student aid programs play an important role in the financing strategy. They also did not attempt to evaluate the impact of changes in the financing scheme. As a policy recommending body, the New Jersey Commission on Financing Post-Secondary Education needed the capability to analyze alternative financing strategies. The existing analytical framework, therefore, had to be expanded to accurately represent the current New Jersey system and allow for the needed flexibility to consider alterations in funding approaches.

In order for this analysis to be pertinent to New Jersey, three types of public subsidies to higher education are examined in the following pages.[1]

1. State monies appropriated to all colleges and universities, excluding the College of Medicine and Dentistry, adjusted to reflect only undergraduate enrollments in New Jersey;
2. New Jersey expenditures allocated to higher education students through programs of financial aid [2] and
3. Federal student aid funds disbursed to New Jersey higher education students.

[1]All public subsidy amounts are derived from appropriations for FY 1976.

[2]State financial aid recipients attending institutions outside of New Jersey are not considered. Data concerning that student population are at present insufficient to analyze this information. Independent students receiving financial aid are also not included because information about their annual incomes was unavailable.

The analysis of these three types of subsidies focuses on taxpayer equity--a comparison between the monetary benefits received and taxes paid by a given income group. The equitable treatment of taxpayers is at the core of attempts to design an efficient and fair means of financing post-secondary education. Given the social significance attached to higher education at present, members of an income group might well expect to receive subsidies commensurate with the proportion of taxes paid by that group.

Public support for higher education, however, has been assigned several prime objectives which impact on the equitable treatment of taxpayers. Access to higher education for a much larger segment of the populace and equal educational opportunity among its citizens have stimulated a broad range of governmental support. These objectives have led to a concerted effort to remove financial barriers which have traditionally kept certain groups in society from participating in the system. In this study, taxpayer equity is defined as the distribution of higher education costs on the basis of ability to pay and commensurate with the distribution of higher education subsidies. Several of the major study findings are summarized below:

- The net result of state support to higher education at the present time is to redistribute income to families with incomes below $5,000 and above $15,000 at the expense of those earning between $5,000 and $15,000.
- Current inequities, as described by the redistribution of income, are further aggravated by any increase in the proportion of state funds appropriated to institutions rather than students.
- Any rise in the proportion of state higher education funds allocated to student financial aid and distributed according to current procedures causes the distribution of net state subsidies to be more progressive.
- A major cause of present inequities is the current method for raising revenues in New Jersey, mainly a regressive tax structure.

- In light of the tax structure, the largest per family net state subsidy is received by those with incomes in excess of $25,000.

WHO BENEFITS?

Benefits are defined as any public monies distributed to either a New Jersey institution of post-secondary education or a New Jersey student enrolled in post-secondary education.

These benefits are all considered to be financial in nature and shortrun in duration. All figures reported as benefits received are derived from funds appropriated by the New Jersey or the United States Legislature for FY 1976. A more complete determination of the benefits received by undergraduate students could be obtained by expanding the time frame to four or five years at a minimum. However, rates of attrition and transfer would be required to implement such a study and the necessary data are not available at this time.

The monetary benefits received from public support for higher education are assumed to be exhausted within one year. While it is obvious that lifetime earning differentials and intergenerational transfers are benefits of higher education with time frames far in excess of any single year, measurement of these long-run benefits is extremely difficult and controversial, and probably more appropriately determined at the national level. Furthermore, such a study would have to be based on a discounted cash flow analysis of the short-term benefits.

Subsidies are made available to students in higher education via two delivery mechanisms--direct support to institutions and student financial aid. Institutional aid consists of any funds flowing from public coffers to institutions of higher education, less any tuition revenues not retained by the school. The state colleges are the only schools where the actual appropriation is not adjusted for estimated tuition receipts. New Jersey relies very heavily on institutional aid to support post-secondary education with roughly 90% of the

higher education appropriation in FY 1976 taking the form of institutional subsidy.[3]

Federal institutional aid programs are not analyzed in this paper for two reasons. The number of agencies administering such programs is so numerous that our ability to collect the necessary data was severely handicapped. Second, the Federal government in recent years has been shifting a larger share of its support for post-secondary education into student aid programs.

State Programs

Institutional Aid. Since institutional aid benefits accrue to the student indirectly through the institution, it is reasonable to assume that all students within the recipient institution benefit equally from the subsidy. In reality, it is clear that all students do not benefit equally from institutional aid. Undergraduates enrolled in high cost programs pay the same tuition as those in lower cost ones while consuming a larger share of the resources. It has yet to be established, however, that the mix by program cost differs substantially across income groups. In fact, the unit costs of major programs of study has never been specified in New Jersey.

For these reasons, benefits from institutional aid are derived from the sector appropriation and applied to all students within those institutions. Table 1 computes average per student subsidies in accordance with the assumptions and methodology set forth above.[4] All appropriations are adjusted by the percentage of graduate students enrolled to reflect only undergraduate support.

[3]Source: State of New Jersey Budget Fiscal 1976-77, Department of Higher Education data, February 3, 1976.

[4]For the purposes of this study, NJIT is included in the state college sector. The majority of state student financial aid funds could not be broken out for this institution. Although the inclusion of NJIT with the state colleges does not substantially alter the results for the sector as a whole, any special characteristics of NJIT which contrast with those of the other state colleges are concealed.

All per student figures represent full-time equivalencies (FTE).[5]

As Table 1 illustrates, New Jersey's support level for its institutions varies substantially in the aggregate and on a per student basis across institutional sectors. The allocation of benefits among income groups within any given sector is a function of the appropriation and composition of the student body as defined by the incomes of their families. Table 2 lists the percentage of students in each sector from families earning various annual incomes.

Table 1

The Distribution of State Institutional Aid for Undergraduates by Sector and Student

Sector	FY 76 Appropriation*	Undergraduate FTE**	Subsidy Per Student
Community Colleges	$ 31,594,000	57,653	$ 548
State Colleges	78,422,000	57,919	1,354
Rutgers	64,362,000	28,416	2,265
Independents	4,955,000	37,826	131
TOTAL	$179,334,000	181,814	$ 986

*Source: State of New Jersey Budget Fiscal 1976-77, Department of Higher Education data, February 3, 1976.

**Source: U.S. HEGIS Form #2300-2.3, "Opening Fall Enrollment", December, 1975.

[5]The United States Office of Education methodology is employed to determine FTE figures. The sum of the full-time students and one-third of the part-time students yields a full-time equivalent student figure.

Table 2

Income Distributions of Families with Students in New Jersey Colleges and Universities by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents
$0-2,999	8.5%	4.4%	3.5%	3.2%
$3,000-4,999	4.4	4.3	3.2	3.7
$5,000-7,499	8.0	6.2	5.9	4.7
$7,500-9,999	11.4	11.6	8.8	7.6
$10,000-14,999	27.2	28.7	26.2	20.6
$15,000-24,999	30.6	33.8	37.4	32.6
$25,000 and Over	9.9	11.0	15.0	27.6

Source: "An Analysis of the Family Incomes of Full-Time Collegiate Students in New Jersey", Commission on Financing Post-Secondary Education, Princeton, New Jersey, September 1975.

The benefits accruing to each income group from state institutional aid can now be determined by combining the sector appropriation with the income distribution of those families with students enrolled. For example, if 8.5% of the community college student body is comprised of students from families earning less than $3,000, this income group receives the benefit of 8.5% of the state aid disbursed to community colleges.

The allocation of all state institutional aid by the family income distribution of students is shown in Table 3. The final column in this table displays the income distribution of all New Jersey residents as compiled by the United States Census in 1970. These figures are essential for the evaluation of the percentage of total institutional aid benefits listed for each income group. They include both families with and without children in college and represent the most up-to-date and reliable income information available for the New Jersey population.

It is clear from comparing the percentage of total benefits received by an income group to the percentage of New Jersey families within the group that the four lowest income groups, those earning less than $10,000, are receiving a smaller

Table 3

The Distribution of State Institutional Aid Benefits By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Benefits	Benefits Per Student	% of Total Benefits	% Families in Income Group
$0-2,999	$ 2,685,000	$ 3,451,000	$ 2,253,000	$ 159,000	$ 8,547,000	$ 885	4.8%	15.7%
$3,000-4,999	1,390,000	3,372,000	2,060,000	183,000	7,005,000	955	3.9	9.1
$5,000-7,499	2,528,000	4,862,000	3,797,000	233,000	11,420,000	980	6.4	12.7
$7,500-9,999	3,602,000	9,097,000	5,664,000	377,000	18,739,000	1,004	10.4	14.4
$10,000-14,999	8,594,000	22,507,000	16,863,000	1,021,000	48,984,000	1,030	27.3	24.7
$15,000-24,999	9,668,000	26,507,000	24,071,000	1,615,000	61,861,000	1,028	34.5	17.8
$25,000 and Over	3,128,000	8,626,000	9,654,000	1,368,000	22,776,000	850	12.7	5.6
TOTAL	$31,594,000	$78,422,000	$64,362,000	$4,955,000	$179,334,000	$ 986	100.0	100.0

share of the total state institutional benefits than their proportion of the state's population. In contrast, the three highest income groups reap a larger proportion of the institutional subsidies as compared to their percentage of the population. These results are consistent with and can be explained by consulting the educational representation indices constructed in "An Analysis of the Family Incomes of Full-Time Collegiate Students in New Jersey" and reproduced in the appendix, Table A. In summary, these indices determined the extent to which the lower income groups were underrepresented and higher income groups overrepresented in the New Jersey higher education system. Since the distribution of institutional subsidies is dependent on student participation rates in the system, the differences between the percentages referred to above are expected.

Table 3 also displays institutional benefits per student by dividing the institutional subsidies which accrued to each income group by the full-time equivalent students enrolled from that group. The average public subsidy received by a student increases with the annual family income until $15,000 and then falls off dramatically for incomes over $25,000. Again, the Commission's earlier publication on the family income distributions of students cited above provides evidence for this result. The indices of income group representation displayed in appendix Table B show that students from families with incomes between $0-12,000 are concentrated most heavily in the community college sector, the public sector with the lowest state support level. Middle income students, defined as those from families earning between $12,000-21,000, appear in greatest relative magnitudes in the state colleges and Rutgers, the two most highly subsidized sectors. Students in the over $25,000 income group show the lowest average per student institutional benefit ($855), because of their high propensity to attend the independent and least subsidized sector.

In summary, benefits from institutional aid are distributed through the participation of students in a given sector from families within specific income brackets. As a result, groups that have traditionally been underrepresented in higher education, mainly the lower income groups, receive a disproportionately small share of the state support allocated to institutions in New Jersey.

Student Aid. Student aid benefits consist of any public monies disbursed directly to New Jersey students in post-secondary education for the express purpose of assisting them to meet the financial cost of their education. These programs transfer funds from a government agency to an eligible student. A student is considered eligible through participation in higher education and demonstration of financial need and/or merit as defined by the individual program. The latter eligibility requirements clearly set student aid apart from institutional aid. In addition, since student aid programs target their resources to specific groups of students, the distribution of these benefits is contingent upon the recipients, the award amounts given to them and the income level of their families.

Table 4 displays the distribution of state student aid benefits. These state student aid benefits include monies disbursed through the State Scholarship and Incentive Programs, County College Graduate Scholarships, Tuition Assistance Grants and the Educational Opportunity Fund. (Appendix Table C displays these state student aid programs individually.)

The nature and allocation guidelines of student financial aid become clear when the distribution of their benefits is examined. The benefits per student decline sharply as family income rises, which implies a relationship between receipt of aid and ability to pay. In addition, the percentage of student aid benefits received by the lower three income groups is shown to be higher than their proportion of the New Jersey population as described in the final two columns of Table 4. Whereas a large portion of institutional aid benefits accrued to those in higher income brackets, state student financial aid tends to counteract the

Table 4

The Distribution of State Student Aid Benefits by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Benefits	Benefits Per Student	% of Total Benefits	% Families in Income Group
$0-2,999	$1,538,000	$1,268,000	$ 695,000	$1,201,000	$ 4,701,000	$503	22.8%	15.7%
$3,000-4,999	1,196,000	1,074,000	675,000	1,001,000	3,946,000	538	19.1	9.1
$5,000-7,499	759,000	1,114,000	791,000	1,197,000	3,860,000	331	18.7	12.7
$7,500-9,999	257,000	802,000	564,000	1,048,000	2,672,000	143	13.0	14.4
$10,000-14,999	124,000	863,000	775,000	1,379,000	3,142,000	66	15.2	24.7
$15,000-24,999	112,000	654,000	689,000	810,000	2,266,000	36	11.0	17.8
$25,000 and Over	--	4,000	6,000	15,000	24,000	1	.1	5.6
TOTAL	$3,986,000	$5,788,000	$4,196,000	$6,651,000	$20,611,000	114	99.9	100.0

Source: Raw data provided by Financial Aid Office of the New Jersey Department of Higher Education.

distributional effects of institutional aid.

Table 5 aggregates all state benefits disbursed through programs of institutional and student aid. The impact of state student aid on the distribution of all state aid benefits is limited because state subsidies to institutions outnumber those to students by approximately 9 to 1. Since student financial aid programs concentrate the majority of their resources in the lower income categories, this is precisely where their effect is greatest. The benefits per student column of Table 5 shows that the receipt of student aid causes a substantial increase in state benefits received by lower income students.

Federal Programs

Information regarding Federal programs was, once again, not easily accessible. Analysis was therefore limited to several major Federal programs although many more are known to exist. The inclusion of just these few serves a variety of purposes. The amount of money allocated by these Federal programs is substantial and may grow over the next several years. The impact of these programs is, therefore, recognized by state policymakers and considered in the design of state student aid programs. Finally, the distribution of these Federal costs and benefits provide New Jersey with some basis for comparison.

Table 6 aggregates student aid benefits from three major federal programs--the Basic Educational Opportunity Grants, Supplemental Educational Opportunity Grants and College Work-Study Programs. (Appendix Table D displays the Federal student aid programs individually.)

Table 5

The Distribution of All State Aid Benefits by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Benefits	Benefits Per Student	% of Total Benefits	% Families in Income Group
$0-2,999	$ 4,223,000	$ 4,719,000	$ 2,948,000	$ 1,360,000	$ 13,250,000	$1,338	6.6%	15.7%
$3,000-4,999	2,586,000	4,446,000	2,735,000	1,184,000	10,951,000	1,493	5.5	9.1
$5,000-7,499	3,287,000	5,976,000	4,588,000	1,430,000	15,281,000	1,311	7.6	12.7
$7,500-9,999	3,859,000	9,899,000	6,228,000	1,425,000	21,411,000	1,147	10.7	14.4
$10,000-14,999	8,718,000	23,370,000	17,637,000	2,400,000	52,125,000	1,096	26.1	24.7
$15,000-24,999	9,780,000	27,161,000	24,760,000	2,425,000	64,126,000	1,064	32.1	17.8
$25,000 and Over	3,128,000	8,630,000	9,660,000	1,383,000	22,801,000	851	11.4	5.6
TOTAL	$35,580,000	$84,210,000	$68,558,000	$11,606,000	$199,945,000	$1,100	100.0	100.0

Table 6

The Distribution of Federal Student Aid Benefits to New Jersey

Family Income	Benefits	% of Total Benefits
$0-2,999	$ 5,575,000	24.2%
$3,000-4,999	3,773,000	16.4
$5,000-7,499	4,436,000	19.3
$7,500-9,999	3,656,000	15.9
$10,000-14,999	3,777,000	16.4
$15,000-24,999	1,799,000	7.8
$25,000 and Over	0	0.0
TOTAL	$23,916,000	100.0

Source: Federal benefits total derived from DHE data listing BEOG, SEOG and CWSP allocations to New Jersey institutions. Distribution by income group based on national distributions. A complete list of sources is listed in appendix Table D.

In comparing the benefit distributions of Federal and state student aid it should be noted that the Federal programs appear to target more aid to the lower income groups as indicated by the percentage of total aid each receives. The State Scholarship Program accounts for a part of this discrepancy, since it is the only student aid program of those analyzed with a merit requirement and not based solely on need.

WHO PAYS?

Costs are defined in this paper as any taxes paid in support of the state and Federal aid programs considered in the previous section.

It is obvious to all taxpaying citizens that these taxes are based on two separate tax structures. State revenues allocated to institutional and student aid are raised from taxes imposed by New Jersey. Federal programs are supported by revenues generated from United States taxes. (This dichotomy does not hold for Federal-state matching programs. For such programs the amount of benefits disbursed has been reduced to reflect only the Federal contribution.)

Identifying the specific taxes from which educational revenues are generated is extremely difficult. It is clear, however, that a majority of state benefits are supported by general taxes, excluding revenues from the state lottery which comprise a small percentage of the higher education budget. State resources budgeted to higher education are assumed to have been raised from taxes other than corporate or business taxes. Those who ultimately pay business and corporate taxes have never been satisfactorily designated; it is therefore difficult to allocate these costs to income groups. On the other hand, revenues raised through sales, fuel, cigarette and motor vehicle taxes accounted for over 70% of the receipts from major taxes in fiscal year 1975-76.[6]

Table 7 shows the proportion of total state taxes paid and the effective rate of taxation borne by each income group. The effective rate of taxation is defined as the percentage of a family's annual income that will, on average, find its way to the state treasury.

[6]Source: State of New Jersey Budget Fiscal 1975-76.

Table 7

New Jersey Tax Burden

Family Income	Effective Rate	% of Total Taxes Paid
$0-2,999	4.9%	1.1%
$3,000-4,999	5.6	3.0
$5,000-7,499	5.1	11.3
$7,500-9,999	4.9	17.2
$10,000-14,999	4.8	32.1
$15,000-24,999	4.5	26.8
$25,000 and Over	2.6	8.4
TOTAL		99.9

Source: New Jersey Tax Policy Committee, 1972

The effective rates for New Jersey portray a regressive tax system for incomes over $3,000. An especially advantageous position is held by those earning in excess of $25,000 a year. The proportion of taxes paid by an income group is related to the effective rate through the number of families and their median income. Although New Jersey's tax structure is clearly regressive, the percentage of state taxes paid by each income group, taken alone, does not appear to substantiate that fact.

The proportion of taxes paid is extremely useful in distributing the costs of public programs among the various income groups. For instance, if the lowest income group is generating 1.1% of the state tax revenues and these taxes are being used to support the state benefits discussed earlier, this group is then bearing 1.1% of the costs of these programs. The distribution of costs of any state expenditures supporting post-secondary education to income groups is, therefore, assumed to equal the percentage of taxes paid by a given group multiplied by the amount of state benefits being considered.

As in the state system, determining the effective rates and eventual use of Federal tax revenues is a complex process. It is assumed herein that Federal subsidies to student aid programs have been raised from Federal personal

income tax receipts. The information displayed in Table 8 is related to the Federal income tax.

Table 8

Federal Tax Burden

Family Income	Effective Rate	% of Total Taxes Paid
$0-2,999	3.6%	.1%
$3,000-4,999	11.1	1.2
$5,000-7,499	12.1	4.3
$7,500-9,999	12.4	5.9
$10,000-14,999	14.6	18.3
$15,000-24,999	17.4	29.8
$25,000 and Over	25.4	40.2

Source: Statistics of Income, 1972, Department of the Treasury, IRS, Publication 79, January 1975.
New Jersey Tax Policy Committee, 1972.

The progressive nature of the Federal income tax is well known and clearly visible from the effective tax rates listed in Table 8. In addition, when the percentage of total state and Federal taxes paid by each income group is compared, the impact of progressivity is revealed.

State Programs

Institutional Aid. Table 9 displays the distribution of the costs associated with state programs of institutional aid. To reiterate, the distribution of the costs of any public expenditures in support of post-secondary education is a function of the total benefits disbursed and the percentage of taxes paid. The total benefits are, therefore, listed above the disaggregated cost figures to clearly illustrate methodology. The percentage of total costs must by definition equal the percentage of total state taxes paid and its inclusion is solely for clarification purposes. The costs per family in Table 9 represent the average amount families in each income group pay in support of state subsidies to institutions. Although this cost per family increases with income until

Table 9

The Distribution of Institutional Aid Costs By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Costs	% of Total Costs	Cost Per Family
Total Benefits	$31,594,000	$78,422,000	$64,362,000	$4,955,000	$179,334,000	100.0%	$ 75.28
$0-2,999	348,000	863,000	708,000	55,000	1,974,000	1.1	5.29
$3,000-4,999	948,000	2,353,000	1,931,000	149,000	5,380,000	3.0	24.77
$5,000-7,499	3,570,000	8,862,000	7,273,000	560,000	20,265,000	11.3	66.97
$7,500-9,999	5,434,000	13,489,000	11,070,000	852,000	30,845,000	17.2	90.06
$10,000-14,999	10,142,000	25,174,000	20,660,000	1,591,000	57,566,000	32.1	97.80
$15,000-24,999	8,467,000	21,017,000	17,249,000	1,328,000	48,061,000	26.8	113.16
$25,000 and Over	2,654,000	6,587,000	5,406,000	416,000	15,064,000	8.4	112.71

$25,000, it should be apparent that these costs decline as a percentage of income, particularly for incomes in excess of $7,500. The regressivity of the tax structure is obviously the reason and will ensure the same outcome for the distribution of state student aid costs.

Student Aid. The costs of state student aid programs are allocated to income groups in Table 10. The relative proportion of costs borne by each family income group for student aid is identical to those presented for institutional aid because the source of revenues to support both is the New Jersey tax system. The absolute dollar costs of student aid are less than the costs associated with institutional aid simply because the amount of state resources applied to each is so different.

In Table 11 all costs associated with student aid and institutional subsidy programs are aggregated and allocated via the tax structure to all income groups. The costs per family listed in the final column of Table 11 can be considered the average amount of money paid annually by every family in New Jersey to finance the state programs considered in this paper.

Federal Programs

The costs of the three Federal aid programs analyzed in this paper are distributed in Table 12. The effect of a progressive tax system is seen clearly from the percentage of Federal taxes borne by each group; its impact on the allocation of costs is immediate.

Table 10

The Distribution of State Student Aid Costs By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Costs	% of Total Costs	Cost Per Family
Total Benefits	$3,986,000	$5,778,000	$4,196,000	$6,651,000	$20,611,000	100.0%	$ 8.68
$0-2,999	44,000	64,000	46,000	73,000	227,000	1.1	.61
$3,000-4,999	120,000	173,000	126,000	200,000	618,000	3.0	2.85
$5,000-7,499	450,000	653,000	474,000	752,000	2,329,000	11.3	7.70
$7,500-9,999	686,000	994,000	722,000	1,144,000	3,545,000	17.2	10.35
$10,000-14,999	1,280,000	1,855,000	1,347,000	2,135,000	6,616,000	32.1	11.24
$15,000-24,999	1,068,000	1,549,000	1,124,000	1,782,000	5,524,000	26.8	13.01
$25,000 and Over	335,000	485,000	352,000	559,000	1,731,000	8.4	12.95

Table 11

The Distribution of All State Aid Costs by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Costs	% of Total Costs	Cost Per Family
Total Benefits	$35,580,000	$84,210,000	$68,558,000	$11,606,000	$199,945,000	100.0%	$ 83.96
$0-2,999	391,000	926,000	754,000	128,000	2,199,000	1.1	5.90
$3,000-4,999	1,067,000	2,526,000	2,057,000	348,000	5,998,000	3.0	27.62
$5,000-7,499	4,021,000	9,515,000	7,747,000	1,312,000	22,595,000	11.3	74.67
$7,500-9,999	6,120,000	14,482,000	11,792,000	1,996,000	34,390,000	17.2	100.41
$10,000-14,999	11,421,000	27,028,000	22,007,000	3,726,000	64,182,000	32.1	101.30
$15,000-24,999	9,535,000	22,566,000	18,374,000	3,110,000	53,585,000	26.8	126.17
$25,000 and Over	2,989,000	7,073,000	5,759,000	975,000	16,796,000	8.4	125.66

Table 12

The Distribution of Federal Student Aid Costs*

Family Income	Total Costs	% of Total Costs
Total Benefits	$23,016,000	99.8%
$0-2,999	23,000	0.1
$3,000-4,999	276,000	1.2
$5,000-7,499	990,000	4.3
$7,500-9,999	1,358,000	5.9
$10,000-14,999	4,212,000	18.3
$15,000-24,999	6,859,000	29.8
$25,000 and Over	9,252,000	40.2

*Includes only costs associated with BEOG, SEOG and CWSP

INCOME REDISTRIBUTION

Net benefits are defined as the difference between the benefits received and the taxes incurred by any income group or family.

Net benefits from public support of higher education are determined by comparing the distribution of costs and benefits as a result of similar programs. Great care has been taken in this paper to specify both cost and benefits distribution as completely and clearly as possible. The determination of net benefits simply involves a set of subtractions of the appropriate costs from the corresponding benefits. For state expenditures, these computations can be both income and sector specific, while for the Federal student aid programs analysis was limited to income groups.

State Programs

Institutional Aid. The distribution of net instititutional benefits in Table 13 illustrates the nature and degree to which allocation of New Jersey monies to institutions redistributes real income. The total net institutional aid benefits shown in Table 13 decrease steadily with family income up to the $7,500-10,000 group. This group also exhibits the largest net outflow in absolute dollars, $12,106,000. Thereafter net benefits increase rapidly to the highest value of $13,800,000, which is received by families with incomes between $15,000 and $25,000. In short, income is redistributed from those groups between $5,000 and $15,000 to all other income groups in New Jersey.

The net impact of state subsidies to institutions on the average family within each group is shown in the last column of Table 13. These dollar amounts measure the net effect of institutional aid programs across all economic units, including families with and without children in college. Net benefits per family portray a slightly different picture than did the net total dollar benefits. Again, the $7,500-10,000 group receives the largest negative net

Table 13

The Distribution of Net Institutional Benefits By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Net Benefits	Net Benefits Per Family
$0-2,999	$ 2,338,000	$ 2,588,000	$ 1,545,000	$ 104,000	$ 6,575,000	$ 17.63
$3,000-4,999	442,000	1,019,000	129,000	35,000	1,625,000	7.48
$5,000-7,499	-1,043,000	-4,000,000	-3,476,000	-327,000	-8,845,000	-29.23
$7,500-9,999	-1,832,000	-4,392,000	-5,406,000	-476,000	-12,106,000	-35.34
$10,000-14,999	-1,548,000	-2,666,000	-3,797,000	-570,000	-8,582,000	-14.58
$15,000-24,999	-1,201,000	5,490,000	6,822,000	287,000	13,800,000	32.49
$25,000 and Over	474,000	2,039,000	4,248,000	951,000	7,712,000	57.70

subsidy. However, the largest positive net subsidy per family, $57.70, accrues to individual families in the highest income category.

The distribution of net benefits is a comparison of the benefit and cost dollars computed earlier. These dollar amounts referred to a common pool of funds in which the costs represent the source and the benefits represent the recipient. A discussion of net benefits can, therefore, focus on the factors influencing these cost and benefit distributions without involving the absolute amounts. This simplification enhances the interpretation and explanation of the total net institutional aid benefits displayed in Table 13.

The primary factor affecting the distribution of institutional aid benefits is the rate at which students from different income groups participate in each sector of higher education. The state tax structure, as described by the percentage of total taxes borne by each income group, determined the distribution of institutional aid costs. These two distributions are compared in Table 14; they were initially displayed in this report in Table 2 and Table 8. The difference between the percentage of benefits received and the percentage of taxes paid is defined as marginal net benefits.

Table 14

Marginal Net Benefits From Institutional Aid by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents
$0-2,999	7.4%	3.3%	2.4%	2.1%
$3,000-4,999	1.4	1.3	.2	.7
$5,000-7,499	-3.3	-5.1	-5.4	-6.6
$7,500-9,999	-5.8	-5.6	-8.4	-9.6
$10,000-14,999	-4.9	-3.4	-5.9	-11.5
$15,000-24,999	3.8	7.0	10.6	5.8
$25,000 and Over	1.5	2.6	6.6	19.2

The numbers listed in Table 14 are designated as marginal because they specify the net impact of one monetary unit (i.e. dollar) of public subsidy to

any given sector. For example, one public dollar appropriated to the community college sector will yield net benefits of 7.4¢ to the lowest income group, 1.4¢ to the next highest group, -3.3¢ to the $5,000-7,500 income group and so on down that column.

It is important to note that this sort of analysis assumes stable participation rates. Additional subsidy dollars allocated to institutions could cause a shift in enrollment patterns due to either improved quality or lower tuition. This issue can only be addressed by incorporating tuition elasticities which at this time are not known for New Jersey.[7] Furthermore, this analysis is negated only if increased subsidies cause a shift in the percentage distribution of students from various family income levels. There is no evidence at this point that any modest increase in public subsidies would affect changes of such magnitude that we need to be concerned.

Tables 13 and 14 vividly portray the fate of families earning between $5,000 and $15,000. It is clear that their participation rate in any sector never exceeds the percentage of taxes they are paying. Consequently the net benefits they receive are negative in every case. Families with incomes between $5,000 and $15,000 supply 60.6% of tax revenues applied to higher education. However, their percentage of sectoral enrollments range from a high of 46.6% in the community colleges to a low of 32.9% in the independent sector. Furthermore, these families comprise slightly over one-half (51.8%) of the New Jersey population. Therefore, given the current tax system, the marginal and total net benefits received by the $5,000-15,000 income group can only be increased substantially through a dramatic rise in their rate of college attendance relative to that of students from families with incomes above $15,000 and below $5,000.

[7]Tuition elasticity refers to the change in demand for higher education, i.e. student enrollments, which result from a change in the price of higher education, i.e. tuition.

Table 14 contains several illuminating figures which are discussed briefly below.

1. The two lowest income groups are aided most through subsidies to the community colleges because roughly 44.0% of their students are enrolled in that sector.
2. Families with incomes between $5,000 and $15,000 fare worst from public subsidies to independent institutions because the differential between the taxes they pay and the percentage of benefits they receive is greatest in this sector.
3. The majority of net benefits received by the $15,000-25,000 income group accrue from subsidies to the state colleges and Rutgers as a consequence of their extremely high percentage of enrollments there, 33.8% and 37.8% respectively.

Student Aid. The procedure for calculating the net benefits from student aid programs is identical to that used for institutional aid. Once again, the associated cost and benefit distributions have been completely specified and require only simple subtractions to determine net benefit amounts. The distribution of net state student aid benefits shown in Table 15 is, therefore, the difference between data compiled in Tables 4 and 11.

Net institutional aid benefits were dependent on two major factors: 1) the New Jersey tax structure and 2) the relative participation rates of students. The former remains as a factor in student aid, and the latter is replaced by the guidelines and allocation procedures of state financial aid programs. Therefore, while net benefits from institutional aid resulted in an irregular pattern by declining until the $10,000 family income level and rising thereafter, the relatively progressive distribution of student aid dictates a somewhat different outcome.

Net student aid benefits in general are inversely related to family income, particularly on a per family basis. Although families earning between $5,000 and

Table 15

The Distribution of Net State Student Aid Benefits By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Net Benefits	Net Benefits Per Family
$0-2,999	$ 1,494,000	$1,204,000	$ 649,000	$1,128,000	$ 4,475,000	$ 12.00
$3,000-4,999	1,076,000	901,000	549,000	802,000	3,328,000	15.32
$5,000-7,499	308,000	461,000	317,000	445,000	1,531,000	5.06
$7,500-9,999	-429,000	-191,000	-158,000	-96,000	-873,000	-2.55
$10,000-14,999	-1,155,000	-992,000	-572,000	-756,000	-3,474,000	-5.90
$15,000-24,999	-956,000	-895,000	-435,000	-972,000	-3,258,000	-7.67
$25,000 and Over	-335,000	-482,000	-347,000	-544,000	-1,707,000	-12.77

$7,500 constitute the only group moving from receipt of negative to positive net benefits, upon closer observation it is apparent that all four lower income groups gain relatively higher net benefits from student aid than from institutional aid. This point becomes clear if the net benefits received by each group and family listed in Table 15 are adjusted for the relative proportions of state expenditures appropriated to institutional and student aid, a 9 to 1 ratio at present. Families with incomes above $15,000 receive negative net subsidies from state student aid due to the small proportion of benefits they obtain from such programs.

Federal Programs

The correlation between income and net benefits is stronger for Federal than state student aid programs as shown in Table 16.

Table 16

The Distribution of Net Federal Student Aid Benefits

Family Income	Total Net Benefits
$0-2,999	$ 5,552,000
$3,000-4,999	3,497,000
$5,000-7,499	3,446,000
$7,500-9,999	2,298,000
$10,000-14,999	-435,000
$15,000-24,999	-5,060,000
$25,000 and Over	-9,252,000

The $7,500-10,000 income group reaps positive net benefits from Federal aid, as opposed to the negative net benefits they receive in the state student aid distribution. Once again, the differential rates of taxation between Federal and state systems can explain this discrepancy. Although the $7,500-10,000 income group contributes 17.2% of the state tax revenues, this group bears only 5.9% of the corresponding Federal costs. This implies in marginal net benefit terms that for the net benefits received by the $7,500-10,000 families to be

greater than zero, they must secure at least 17.2% of the state, but only 5.9% of the Federal student aid dollars.

SUMMARY AND CONCLUSIONS

The primary focus of this study is to analyze the equitability of current state programs supporting higher education. Taxpayer equity was defined at the outset as the distribution of higher education costs on the basis of ability to pay and commensurate with the distribution of higher education subsidies.

Table 17 summarizes the net effect on each income group of all state programs considered in this study. Table 18 describes these state programs in terms of their net impact on families with students in each collegiate sector. The results displayed in Table 17 indicate that income is being redistributed from those families with incomes between $5,000 and $15,000 to families earning above $15,000 and below $5,000. In addition the largest net subsidy per economic unit, $44.92, is received by those families earning above $25,000 while the smallest net subsidy, $37.89 per family, accrues to families with incomes between $7,500 and $10,000. It is clear that the receipt of net state aid benefits is not contingent on a group's ability to pay and is therefore inequitable.

The regressive nature of the New Jersey revenue-raising process which demands a relatively high effective tax rate from those with low incomes and receives the majority of its funds from families between $5,000 and $15,000, has been documented in Table 7. The distribution of state subsidies does not provide those with incomes between $5,000 and $15,000 monetary benefits equal to the amounts extracted in taxes to support higher education. In part then, the benefits disbursed to the low and higher income families are financed by monies collected from those in the middle. For those families earning between $4,000 and $15,000, the disproportionately high costs they are asked to bear, combined with the smaller share of monetary benefits accruing to them, constitute an obstacle to their participation in the system relative to other income groups

Table 17

The Distribution of All Net State Aid Benefits By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Net Benefits	Net Benefits Per Family
$0-2,999	$ 3,832,000	$ 3,792,000	$ 2,194,000	$ 1,232,000	$ 11,050,000	$ 29.63
$3,000-4,999	1,519,000	1,920,000	678,000	836,000	4,953,000	22.81
$5,000-7,499	-734,000	-3,539,000	-3,159,000	118,000	-7,314,000	-24.17
$7,500-9,999	-2,261,000	-4,583,000	-5,564,000	-571,000	-12,979,000	-37.89
$10,000-14,999	-2,703,000	-3,658,000	-4,369,000	-1,326,000	-12,056,000	-20.48
$15,000-24,999	245,000	4,595,000	6,387,000	-685,000	10,542,000	24.82
$25,000 and Over	139,000	1,557,000	3,901,000	407,000	6,004,000	44.92

in the population.

A major cause of these inequities is the large percentage of state aid appropriated to institutions. The distribution of net state student aid benefits is more in line with the concept of equity defined in this report. However, the impact of these student financial aid programs cannot overcome the combined effects of a regressive tax structure and the current distribution of institutional subsidies to produce a system which is equitable in the aggregate.

Table 18

Net State Aid Benefits Per Family With Student, By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents
$0-2,999	$856	$1846	$2958	$1118
$3,000-4,999	992	1757	2980	819
$5,000-7,499	638	1589	2662	729
$7,500-9,999	487	1373	2390	395
$10,000-14,999	455	1305	2268	207
$15,000-24,999	428	1261	2204	71
$25,000 and Over	422	1229	2141	7

The distribution of net state aid benefits and the factors influencing it suggest several policy changes which might be considered at the state level to produce a more equitable financing system.

1. Increase state student aid to students from families earning between $5,000 and $15,000. Student aid funding would have to be increased and much of the additional monies disbursed to students in these income groups. This strategy would constitute a concerted effort to counteract the inequitable effects of institutional aid.
2. Change the patterns of distributing state institutional aid. The disproportionately high share of monetary benefits received by income groups over $15,000 is caused in part by their overrepresentation in Rutgers and the state colleges, and by the relatively large state

subsidies granted these two sectors. A more uniform distribution of institutional aid in the public sector would increase aid to the community colleges and consequently the benefits to low and low middle income groups. The principle of like support to public institutions for like students attempts to operationalize this change.

3. Alter the state tax structure to generate state funds in a more progressive manner. The importance of the state tax structure to the distribution of aggregate net benefits has been highlighted. It is clear that the regressive nature of the state tax structure is the major factor promoting inequity in the financing of post-secondary education. This particular finding is supported by the analysis of specific programs as well as the examination of the combined effects of all programs.

Several conclusions necessarily emerge at this point. First, in evaluating a plan for financing higher education, equity should be a concern. Second, the present system is inequitable and a change in the distribution of costs of supporting post-secondary education is probably the most efficient way of promoting equity. Third, a gradual reduction of institutional subsidy will have a positive effect on the equitable distribution of net benefits.

SUPPLEMENT

The distribution of net benefits depends on a combination of factors influencing the allocation of both costs and benefits, including:

- The rates at which students from different income groups participate in each sector of higher education.
- The levels of state subsidies to institutions.
- The level and allocation of state student financial aid.
- The structure of the state tax system used to generate funds allocated to higher education.

Shifts in state policies that would affect any one or more of these factors would alter the distribution of net benefits. Evaluations of any distributional changes may be performed within the framework developed here. Two popular alternatives will be explored below although the number of possibilities is endless.

The Impact of a Federal-Type Income Tax

Over the last several years, New Jersey has been embroiled in a lengthy debate on tax reform. Numerous proposals have been set forth and discussed, and all have been rejected. The impact of the tax structure on the overall distribution of net benefits has been demonstrated and discussed throughout this paper. The alternatives for tax reform are limitless. The effect of any change adopted, however, will most likely be to increase the progressivity of the current state tax system.

The staff chose to investigate the impact on higher education finance of a New Jersey income tax modeled after the present Federal system. This could be administered as a surcharge or otherwise but the effect on the distribution of costs would be the same. In other words, the benefits side of the higher education ledger will remain constant, while the percentage of taxes borne by

each group is changed to that used earlier to evaluate Federal student aid programs.

Table 19 lists the net state aid benefits combining the current distribution of state benefits with a Federal tax system. These figures are useful for comparison with those in Table 17 in the summary section for state student and institutional aid programs. It is shown through these two tables that all income groups and families below $15,000 gain through the implementation of a Federal-type income tax. Since the percentage of taxes borne by these groups is reduced under an income tax, this result is to be expected. Families earning between $7,500 and $10,000 show the largest gain in net benefit terms. Their relative position shifts from that of having the largest net outflow of benefits to a net inflow of over $9.6 million. The middle three income groups display positive net benefits as opposed to their earlier negative status. Their strong participation rates throughout the post-secondary system in conjunction with their reduced tax burden guarantee them a positive net subsidy. Finally, it should be noted that the position of the two lowest income groups remains relatively unchanged. This static position may result from the fact that even a regressive tax system will not generate a large amount of public resources because any percentage of a low number yields a low amount. In short, the role of subsidizing post-secondary education would shift from those with incomes between $5,000 and $15,000, to families with annual incomes in excess of $25,000 under this type of revenue-raising approach.

Using a Federal income tax system to distribute costs, Table 20 displays the net state aid benefits for all families with students in higher education. Table 20, in comparison with Table 18, shows that all families earning less than $15,000 with children in college receive higher net benefits under a Federal-type income tax.

Table 19

The Distribution of Net State Aid Benefits Using A Federal-Type Income Tax, By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Net Benefits	Net Benefits Per Family
$0-2,999	$ 4,187,000	$ 4,634,000	$ 289,000	$ 1,348,000	$ 13,049,000	$ 35.00
$3,000-4,999	2,159,000	3,436,000	1,912,000	1,045,000	8,552,000	39.38
$5,000-7,499	1,756,000	2,355,000	1,640,000	931,000	6,683,000	22.08
$7,500-9,999	1,759,000	4,932,000	2,183,000	740,000	9,614,000	28.07
$10,000-14,999	2,207,000	7,962,000	5,092,000	276,000	15,536,000	26.39
$15,000-24,999	-823,000	2,069,000	4,330,000	-1,033,000	4,543,000	10.70
$25,000 and Over	-11,175,000	-25,218,000	-17,900,000	-3,283,000	-57,577,000	-430.78

Table 20

Net State Aid Benefits Per Family With Student Using A Federal-Type Income Tax, By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents
$0-2,999	$ 861	$1851	$2963	$1123
$3,000-4,999	1008	1174	2997	835
$5,000-7,499	741	1635	2708	775
$7,500-9,999	552	1439	2456	461
$10,000-14,999	493	1343	2306	245
$15,000-24,999	412	1245	2188	55
$25,000 and Over	-60	747	1658	-476

A Tuition Free Public System

Although the possibility of a tuition free public system in New Jersey is remote at best, many educators and politicians nevertheless favor the idea. This section briefly examines the immediate change in the distribution of net benefits which would result from state supported zero tuition at the community colleges, state colleges and Rutgers.

The effects of state student aid programs are excluded here because it is impossible to forecast their composition under such a system. For comparative purposes institutional aid to the independent sector was held constant at present levels. Therefore, all the data laid out in the following pages are comparable to that related to institutional aid under the current New Jersey financing strategy.

Within the assumptions specified above and the analytical framework developed thus far, the effect of zero tuition can be easily determined. The additional subsidies per student cited below represent 1974 average tuition and fee charges per full-time equivalent student. They are considered necessary to support a tuition free system.

Community Colleges	$418
State Colleges	667
Rutgers	718

Source: HEGIS Form 2300-4, 1974

By applying these per student subsidies to current sector enrollments, the additional amount of state institutional benefits is established. Once these total benefits are specified, the analysis is reduced to distributing these benefits and costs among income groups and comparing the results. Fortunately, this process can be circumvented due to the marginal net benefits defined and computed earlier. The marginal net benefit matrix in Table 14 allows the measurement of net impact of one (or more) additional subsidy amounts to any or all sectors. Table 21 displays the net benefits of the additional support necessary to implement, at the present time, a zero tuition system for undergraduates. Additional benefits required by sector and the marginal net benefits of institutional aid are utilized.

As one might expect, the burden of subsidizing this supplemental aid falls to the $5,000-15,000 income group. The result of larger institutional aid benefits, in conjunction with the current regressive tax system and enrollment pattern, is to increase net subsidies to the two highest and lowest groups, at the expense of those in the middle.

Table 21

The Distribution of Additional Net Benefits By Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents	Total Net Benefits	Net Benefits Per Family
$0-2,999	$ 1,783,000	$ 1,275,000	$ 490,000	--	$ 3,548,000	$ 9.51
$3,000-4,999	337,000	502,000	41,000	--	880,000	4.05
$5,000-7,499	-795,000	-1,970,000	-1,102,000	--	-3,867,000	-12.78
$7,500-9,999	-1,398,000	-2,163,000	-1,714,000	--	-5,275,000	-15.40
$10,000-14,999	-1,181,000	-1,313,000	-1,204,000	--	-3,698,000	-6.28
$15,000-24,999	916,000	2,704,000	2,163,000	--	-5,783,000	13.61
$25,000 and Over	361,000	1,004,000	1,347,000	--	2,712,000	20.29

Table A

Indices of Educational Representation for Full-Time Students Enrolled in New Jersey Institutions By Sector

Annual Income	Community Colleges	State Colleges	Rutgers	Independents	N.J. Norm
Less than $7,500	.80*	.57	.49	.45	.55
$7,500-11,999	1.03	1.02	.83	.66	.88
$12,000-14,999	1.11	1.22	1.14	.91	1.12
$15,000-20,999	1.24	1.48	1.53	1.23	1.42
More than $21,000	.93	.94	1.28	1.94	1.26

*.80 = 20.9 % of student enrollment in the Community College sector from families with less than $7,500 in income / 26.0 % of all families, with dependents aged 18-24, earning less than $7,500

Source: "An Analysis of the Family Incomes of Full-Time Collegiate Students in New Jersey", Commission on Financing Post-Secondary Education, Princeton, New Jersey, September 1975.

Table B

Indices of Income Group Representation for Students in New Jersey Institutions by Sector

Family Income	Community Colleges	State Colleges	Rutgers	Independents
Less than $7,500	1.46*	1.04	.88	.82
$7,500-11,999	1.18	1.16	.95	.75
$12,000-14,999	.99	1.09	1.02	.83
$15,999-20,999	.88	1.05	1.08	.87
More than $21,000	.74	.74	1.02	1.54

*1.46 = 23.7 % of students from families earning less than $7,500 enrolled in Community Colleges / 16.2 % of all students enrolled in Community Colleges

Source: "An Analysis of the Family Incomes of Full-Time Collegiate Students in New Jersey", Commission on Financing Post-Secondary Education, Princeton, New Jersey, September 1975.

Table C

The Distribution of State Student Aid Benefits by Program and Sector

Family Income/ Sector	State Scholarship	Incentive Programs	County College Graduate	Education Opportunity Fund	Tuition Assistance Grant	Totals
$0-2,999						$ 4,701,342
Community Colleges	$ 6,080	$ --	$ --	$ 1,531,448	$ --	1,537,528
State Colleges	44,500	3,325	3,000	1,216,904	--	1,267,729
Rutgers	37,080	5,100	1,500	651,379	--	695,059
Independents	21,500	18,800	--	526,198	634,528	1,201,026
$3,000-4,999						3,946,351
Community Colleges	12,495	--	--	1,183,391	--	1,195,886
State Colleges	77,000	5,600	3,500	987,796	--	1,073,896
Rutgers	71,195	9,180	1,500	593,380	--	675,255
Independents	59,700	55,200	500	473,064	412,850	1,001,314
$5,000-7,499						3,860,235
Community Colleges	37,060	--	--	721,759	--	758,819
State Colleges	170,000	12,215	7,500	923,946	--	1,113,661
Rutgers	161,160	19,635	3,500	606,764	--	791,059
Independents	114,600	109,300	3,500	401,076	568,220	1,196,696
$7,500-9,999						2,671,615
Community Colleges	37,155	--	--	219,825	--	256,980
State Colleges	211,500	15,505	12,000	563,382	--	802,387
Rutgers	180,555	23,035	3,500	356,920	--	564,010
Independents	128,400	122,500	3,000	294,808	499,530	1,048,238

Table C (cont.)

Family Income/ Sector	State Scholarship	Incentive Programs	County College Graduate	Education Opportunity Fund	Tuition Assistance Grant	Totals
$10,000-14,999						$ 3,141,784
Community Colleges	$ 117,085	$ --	$ --	$ 7,328	$ --	124,413
State Colleges	711,000	51,135	26,000	75,118	--	863,253
Rutgers	681,785	75,820	6,500	11,154	--	775,259
Independents	433,000	400,085	10,500	10,284	524,990	1,378,859
$15,000-24,999						2,265,525
Community Colleges	112,415	--	--	--	--	112,415
State Colleges	594,000	42,070	17,500	--	--	653,570
Rutgers	594,215	73,525	21,500	--	--	689,240
Independents	350,300	315,700	3,500	--	140,800	810,300
$25,000 and Over						24,115
Community Colleges	--	--	--	--	--	--
State Colleges	3,500	250	--	--	--	3,750
Rutgers	5,000	765	--	--	--	5,765
Independents	7,000	5,600	--	--	2,000	14,600
Sector Total						
Community Colleges	322,290	--	--	3,663,751	--	3,986,041
State Colleges	1,811,500	130,100	69,500	3,767,146	--	5,778,246
Rutgers	1,730,990	207,060	38,000	2,219,597	--	4,195,647
Independents	1,114,500	1,027,185	21,000	1,705,430	2,782,918	6,651,033
Grand Total	$4,979,280	$1,364,345	$128,500	$11,355,924	$2,782,918	$20,610,967

Sources: Figures derived from print-out of Fall 1975 Disbursements.
State Scholarships Office
EOF Income Distribution, Academic Year 1974-75.
State Scholarship Office

Table 0

The Distribution of Federal Student Aid Benefits by Program

Family Income	Basic Educational Opportunity Grants	Supplemental Educational Opportunity Grants	College Work-Study	Total Benefits
$0-2,999	$3,286,288	$1,224,226	$1,064,932	$5,575,446
$3,000-4,999	2,262,316	806,877	703,529	3,772,722
$5,000-7,499	2,538,000	1,001,640	896,277	4,435,917
$7,500-9,999	2,123,528	746,593	785,447	3,655,568
$10,000-14,999	2,020,656	677,035	1,079,388	3,777,079
$15,000-24,999	1,329,219	180,852	289,121	1,799,192
$25,000 and Over	--	--	--	--
TOTAL	13,560,007	4,637,223	4,818,694	23,015,924

Sources: Estimates derived from the following:

U.S. Department of HEW - Office of Education, BEOG Program Summary Statistics, 1974-75
Division of Student Support and Sepcial Programs, Bureau of Post-Secondary Education, U.S.O.E., May 6, 1975
Summary of Federal Student Aid Programs, State Scholarship Office, FY75.